

WATERSHED MANAGEMENT

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319 Success Story: Careless Creek

Local initiative and volunteer participation contributed to the success of the Careless Creek Watershed Project. Their collaborative efforts were recognized by Governor Racicot and the Montana Watershed Coordination Council last summer with a Montana Watershed Stewardship Award. In November the Careless Creek project received the CF Industries National Watershed Award. This is the second year that a Montana watershed group has won the national award. In 1999 the Sun River Watershed Project was honored.



Sterling Zeier, Careless Creek Rancher and Watershed Activist

Dates to Remember

Scoping Meetings

January 4 - Billings
January 9 - Broadus
January 9 - Ashland
January 10 - Miles City
January 11 - Helena

Winter Grazing Seminar

January 10-11 - Dillon

Watershed Quarterly Meeting

January 24 - Helena

Animal Waste Conference

February 1-2 - Billings

Careless Creek is a 100-mile long tributary to the Musselshell River in central Montana. Agriculture is the main economic activity and land use in the 500,000 acre watershed. About a quarter of the land in the stream corridor is irrigated, the rest is mostly forest and range land.

Lower Careless Creek was classified as "moderately to severely impaired" in the 1988 state water quality assessment. Sediment and salts from return irrigation flows and other agriculture activities were the main pollutants. Artificially high summer flows were causing severe streambank erosion. Local landowners working with the Lower Musselshell Conservation District began a process to address local resource concerns. A 1990 study led to

the creation of a local steering committee. The steering committee developed a list of goals:

- ♦ Reduce artificial flows down Careless Creek
- ♦ Reduce streambank and channel erosion on the lower seven miles of Careless Creek
- ♦ Apply voluntary Best Management Practices in the watershed above Deadman's Reservoir
- ♦ Improve native fisheries in the lower watershed
- ♦ Establish weed control plans for the watershed
- ♦ Restore Franklin Lake to a wetland

In 1995 the steering committee organized a “Know Your Watershed” workshop. This was the beginning of the committee’s outreach and education program. The project’s bi-monthly newsletter, *Careless Creek Country*, won a state award for excellence. Other components of the outreach program include “outdoor classrooms” and watershed tours.

Local buy-in of the project was crucial to its success. Complex resource issues, i.e. water rights and allocations, had the potential to create conflict within the community. The watershed committee emphasized a nonregulatory, collaborative approach that attracted the participation of a majority of landowners and interest groups. Irrigation discharges to Careless Creek were voluntarily limited to 100 cfs (cubic feet second). This flow reduction was made possible by infrastructure improvements to the water delivery system.

Measurable Goals

At the outset, the watershed group established a tracking program to monitor implementation. As of summer 2000, 37,000 feet of streambank were restored and 56,000 feet of fencing were installed to manage grazing in riparian zones and protect critical areas. A 15,195 foot pipe and two tanks were installed to provide off-stream livestock watering. Riparian habitat increased by 19 percent. Fifty-four percent of the stream corridor is no longer eroding. Prescribed grazing practices have improved rangeland management on 18,000 acres (so far). These restoration activities reduced sediment delivery to the Musselshell river by 25 percent.

The comprehensive monitoring plan uses a combination of water chemistry analyses, biological indicators and physical habitat evaluations to measure progress. One indication of progress: fish populations have rebounded in the first five years of the project.

Phase II

To further reduce nutrient and sediment delivery in Careless Creek and the Musselshell River, 319 funds are being used to restore another 14,632 feet of degraded streambank by improving livestock waste systems, moving corrals off the creek, developing alternative livestock watering systems (i.e. solar pumps),

excluding livestock from damaged riparian areas and continuing to plant willows and grass. Other contributors are the Montana Renewable Resources Grant and Loan Program of the Department of Natural Resources and Conservation and the Deadman’s Basin Water Users Association.

Broadbased Collaboration

The steering committee brought together a broad coalition of private landowners and water users, federal, state and local agencies and private organizations to address resource concerns in the watershed. Collaborators include: the Lower Musselshell Conservation District, Musselshell and Golden Valley County commissions, USDA Natural Resources Conservation Service, Deadman’s Basin Water Users’ Association, Upper Musselshell Water Users Association, U.S. Bureau of Reclamation, Montana Watercourse, Deadman’s Basin Cabin Owners Association, Montana’s Fish, Wildlife and Parks Department, Department of Natural Resources and Conservation and Department of Agriculture. Local schools are very involved in the monitoring effort and in tree planting activities. Montana Conservation Corps cut, bundled and planted thousand of willow whips on the creek.

Montana Watershed Stewardship Awards

On behalf of the Montana Watershed Coordination Council Governor Marc Racicot honored three local organizations for their efforts to improve water quality. The 2000 Watershed Stewardship Awards were presented July 25 in Helena to the Green Mountain Conservation District, Sage Creek Watershed Alliance and Careless Creek Watershed Project (see story page 1).

The **Green Mountain Conservation District** was recognized as a catalyst and supporter of six watershed councils in the Lower Clark Fork Watershed beginning in 1995. These six watershed councils demonstrate a comprehensive approach for watershed health relying on a ‘stakeholder’ process for forming councils. The success of the groups has relied on technical assistance guiding restoration and conservation efforts as well as local citizens identifying watershed concerns and formulating effective strategies to address these concerns.

The **Sage Creek Watershed Alliance** addressed serious water quality concerns in northern Montana by establishing clear objectives through an Area Wide Conservation Plan and Water Restoration Action Strategy. These objectives are pursued through a comprehensive and aggressive public outreach program and have proved to be an effective force through a person-to-person approach.

EPA Offers One-Step Grant Shop

The Environmental Protection Agency has rolled several ecosystem protection grants into a one-step application. Starting in 2001, a single grant submission will be considered for several sources of funding. EPA hopes this change will streamline the process, make funds available earlier in the year and produce the best fit between programs and proposals. This change means DEQ will not issue a RFP (request for proposals) in March. Watershed groups, conservation districts and other entities interested in TMDL grants must apply by January 12 directly to EPA.

These programs are included in the one-step application:

Regional Geographic Initiative (RGI) Funding: a grassroots approach for environmental protection tailored to the community. RGI was established in 1994 to help each EPA Region address its own unique environmental challenges. It is a model of government partnering with communities and industries to develop long-term solutions to environmental protection. Many RGI projects are problems of high regional priority which are not addressed by national, media-specific environmental programs.

Total Maximum Daily Load (TMDL) Program Funding: The TMDL funds are intended for use by states, tribes, local governments and non-profit agencies. The proposals should address high priority TMDL activities, including the development of Water Quality Restoration Plans in water bodies impaired by non-point sources.

Water Quality Project Grants: Clean Water Act (CWA) Section 104(b)(3) Project Grants are available for short duration (1 to 2 year) projects that promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction and elimination of pollution. Regional priorities for Fiscal Year 2001 funding include projects that address *point* source pollution, and/or are geared towards the protection or restoration of priority watersheds as identified in State Unified Watershed Assessments, and/or help to plan or address the impacts of growth and sprawl within Region 8.

Wetlands Protection Project Grants: Wetland grants are limited to developing new or refining existing comprehensive wetland programs. All projects funded through this program must contribute to the overall development and improvement of state, tribal or local government wetland protection programs. The

goals of the Environmental Protection Agency's wetland program and of the President's Clean Water Action Plan are to increase the quantity and quality of wetlands in the U.S. by conserving and increasing wetland acreage, and improving wetland health. In pursuing these goals, EPA seeks to build the capacity of all levels of government to develop and implement effective, comprehensive programs for wetland protection and management. EPA encourages projects to build effective, comprehensive wetland programs in five areas: monitoring and assessment, regulation, restoration planning, water quality improvement, and public private partnerships.

The one-step application is due to EPA by **January 12, 2001**.

For more information see http://www.epa.gov/region08/community_resources/grants/grants.html or call EPA Region 8 1-800-227-8917.

Coal Bed Methane Coming to Montana

Citizen involvement will be crucial in preparing a coal bed methane environmental impact statement and developing water quality plans for watersheds impacted by methane extraction.

Coal Bed Methane EIS Scoping Meeting Schedule

Billings, January 4 MSU-Billings Student Union Building Lewis and Clark Room	7-9 p.m.
Broadus, January 9 Powder River Community Center Fairgrounds	2-4 p.m.
Ashland, January 9 Ashland Public School cafeteria	7-9 p.m.
Miles City, January 10 Miles City Community College, Room 106	7-9 p.m.
Helena, January 11 DEQ Director's Conference Room 1520 East Sixth Ave.	7-9 p.m.

The coal bed methane industry estimates that almost 10,000 wells will be drilled in Montana over the next ten years. More than half of these wells will be on federal lands, a fifth will be on state land and the remainder on private lands.

In response to a lawsuit filed by the Northern Plains Resource Council, Montana will not issue permits for new production wells until an environmental impact statement is completed. DEQ is the designated lead agency. Cooperating agencies include the Department of Natural Resources and Conservation, the Board of Oil and Gas and the Bureau of Land Management. Prior to the moratorium, the Board of Oil and Gas issued 284 permits to drill. Some 125 wells are now in production.

As part of the EIS process, DEQ and the Bureau of Land Management will conduct a series of scoping meetings in early January. The meetings are used to gather facts and listen to the concerns of people who might be impacted by coal bed methane development. Among the issues that will be addressed in the EIS are groundwater draw-down, water quality and quantity, wildlife habitat, soils, minerals, vegetation, recreation and socio-economic impacts.

Most of the current coal bed methane activity is in the Powder and Tongue River watersheds of southeastern Montana. The upper Powder River Basin in Wyoming is a very productive coal bed methane region. More than 6000 wells are producing methane and thousands more are in the works.

Trapped methane is released from a coal bed by pumping out the aquifer. Wells are drilled into the coal seam. The casing is sealed above the coal and reduced water pressure allows the methane to rise through the well casing. In Wyoming, most the water is discharged on the surface.

Coal bed methane extraction may have several water quality impacts. Increased flows from surface discharge may damage stream beds and destabilize streambanks. Ephemeral or intermittent waterways are especially vulnerable to gulying. The chemistry of the water is also a concern. The quality of the discharged water varies from one area to another with a greater concentration of dissolved constituents near the Wyoming-Montana border. The parameters of concern include sodium, iron, manganese, fluoride, chloride, ammonia, silver, aluminum, arsenic, boron, barium, cadmium, copper, mercury, nickel, lead, strontium, zinc, Total Dissolved Solids (TDS), the Sodium Adsorption Ratio (SAR), Electrical Conductivity (EC) and Total Suspended Solids (TSS).

Salinity is a particular concern. Too much salt in irrigation water can inhibit plant growth and destroy the productivity of the soil. Some ranchers and other landowners are also concerned that coal bed methane wells will lower the water table. Many residents

will experience the impacts of coal bed methane extraction without reaping any benefits; their mineral and gas rights having been sold by previous landowners.

Montana has numeric standards for many of the pollutants found in coal bed methane discharge water. Sometimes these standards are much different from Wyoming's. The Department of Environmental Quality will set water quality targets for each stream at the Montana-Wyoming border. The quality of the water entering Montana from Wyoming must meet these targets as well as all other Montana water quality standards, including nondegradation.

These targets will be used to help establish Total Maximum Daily Load limits for discharges from coal bed methane development or other new point sources. These TMDLs will be incorporated into water quality plans that are typically developed as a cooperative effort of DEQ, local landowners, interested citizens and other government agencies.

Coal bed methane exploitation may spread far beyond the Powder River Basin. Exploratory wells are still permitted and several will be drilled in the Livingston area next summer. Much of eastern Montana lies atop coal deposits that are potential sources of methane.

To add your name to the coal bed methane EIS "interested parties" list contact Chris Levine, DEQ Water Quality Standards Section, (406) 444-0371 clevine@state.mt.us. If you want to be involved in the Tongue or Powder River watershed planning process contact Dean Yashan, DEQ Yellowstone Basin Coordinator, (406) 444-5317 dyashan@state.mt.us

Potential Coal Bed Methane Areas U.S. Geological Survey Map



Federal Agencies Unify Water Policy

The new **Unified Federal Policy on Watershed Management** pledges improved cooperation between federal agencies, state, tribal and local governments and private landowners and other citizens.

The policy endorses a watershed approach to addressing water pollution from federal land and resource management activities. Federal agencies in five departments will identify and incorporate watershed management goals in their planning, programs and actions.

The policy was signed by the departments of Interior, Agriculture, Defense, Energy and Commerce as well as the Environmental Protection Agency and Army Corps of Engineers.

Federal agencies are required to meet state and tribal water quality standards. The new policy strengthens their commitment to work with state, local and tribal governments in prioritizing watershed restoration work and in identifying and implementing best management practices on federal lands. Federal agencies

promise to work closely with private landowners in priority watersheds that have a mix of federal and private lands.

Federal agencies will also coordinate water quality monitoring and assessment activities with other resource management entities. They will share training, information and technical expertise and promote collaboration and consistency in watershed management practices.

About a quarter of Montana is managed by the federal government: Seventeen million acres by the Forest Service, eight million acres by the Bureau of Land Management and lesser acreages by the National Park Service, Fish and Wildlife Service, Department of Defense and other agencies. Clearly, the cooperation and support of these agencies on water quality issues is a critical element in restoring and protecting Montana's water resources.

The **Unified Federal Policy on Watershed Management** is accessible at <http://www.cleanwater.gov/ufp/> or a copy may be ordered by calling (801) 517-1037.

Forestry BMPs Protecting Water Quality

An audit of logging operations found that forestry Best Management Practices are correctly applied 96 percent of the time. The biennial audit shows significant progress in BMP application over the past decade.

Comparison of Audit Results 1990-2000						
	2000	1998	1996	1994	1992	1990
Application of practices that meet or exceed BMP requirements	96%	94%	92%	91%	87%	78%
Application of high risk practices that meet or exceed BMP requirements	92%	84%	81%	79%	72%	53%
Percentage of sites with at least one major departure in BMP application.	9%	17%	27%	37%	43%	61%
Average number of departures in BMP application, per site.	1.4	2	3	3.9	5.6	9
Percentage of practices providing adequate protection.	98%	96%	94%	93%	90%	80%
Percentage of high risk practices providing adequate protection	93%	89%	86%	83%	77%	58%
Percentage of sites having at least major/temporary or minor/prolonged effectiveness departure.	21%	26%	34%	28%	37%	64%
Average number of effectiveness departures per site.	1	1.5	2.3	3	4.6	8

Four interdisciplinary teams conducted 42 audits on sites that were harvested within the past two years. Each site was at least five acres and located within 200 feet of a stream. Each team included a fisheries biologist, a forester, a hydrologist, a representative of a conservation group, a road engineer, a soil scientist and a forest landowner or logging professional. The audit teams evaluated up to 46 BMPs at each site. The teams concluded that the practices are 98 percent effective in protecting soil and water resources. Forty-three percent of the audited sites had no recorded impacts and 48 percent had only minor or temporary impacts. There were no sites where major or prolonged impacts were observed.

Eight "high risk" BMPs were evaluated separately. These practices are considered crucial for protecting water quality. The audits found 92 percent of these BMPs were correctly applied and providing adequate protection. The most impacts were associated with road maintenance and drainage.

Montana's water quality protection program for forestry relies on a combination of regulatory and voluntary approaches. In 1987 the Environmental Quality Council developed the first statewide Best Management Practices for forestry.

These practices are described and illustrated in the **Forestry BMPs** handbook, a Section 319 funded publication developed by DNRC, MSU Extension and the Montana Logging Association. BMPs are also promoted at industry meetings, workshops and conferences.

In 1989 the Montana legislature required landowners who were planning to harvest a significant amount of timber to notify the state. Under this law, BMP information is sent to the landowner.

The 1991 Streamside Management Zone (SMZ) law regulates forest practices in riparian areas. Since 1994, the BMP audits have also evaluated compliance with SMZ. The 2000 audit found SMZ rules were correctly applied 96 percent of the time. Of 17 departures from the rules, 14 were considered minor and three major. SMZ effectiveness was rated very high—over 99 percent.

Although the audit teams scored each of the four major ownership (state, federal, industrial and nonindustrial private landowner) categories separately, there were only a few percentage points difference in their performances.

There are 22.5 million acres of forestlands in Montana, nearly a quarter of the land area. In 1998 the forest industry contributed \$420 million to the state's economy.

The forest lands of Montana are also the headwaters for many important rivers and streams. These provide some of the west's best fishing as well as water for agriculture, recreation, drinking water and many other uses.

DEQ Releases TMDL Schedule

The Department of Environmental Quality has developed a schedule for completing water quality restoration plans for all major rivers, lakes and streams in Montana.

In June, the federal District Court in Missoula ordered the U.S. Environmental Protection Agency and DEQ to produce a schedule to complete *Total Maximum Daily Load* plans for all impaired and threatened water bodies by 2007. A TMDL plan establishes the maximum amount of pollutants that can flow into a waterbody without exceeding water quality standards. Montana is one of 18 states under judicial order to expedite TMDL development.

The schedule was developed using a watershed approach. The schedule divides Montana into 91 watershed planning units with an average of four to ten impaired or threatened waterbodies in each unit (see map page 8). The date indicates the year in which water quality restoration plans for all impaired waterbodies in the watershed will be completed. However, some sub-watersheds within the planning unit may be completed earlier.

DEQ Watershed Program Manager Stuart Lehman emphasizes that the schedule is not meant to overshadow local involvement in watershed planning. "Montana's water quality program is based on local watershed groups developing a community approach to achieving water quality standards," Lehman said.

The local watershed approach has worked very well in Montana. More than fifty watershed groups across Montana are addressing water quality issues from stream flows to septic tanks. Several watershed groups have won state and national recognition for their achievements. However, in watersheds where no local group comes together to address impaired waterbodies, DEQ will develop a water quality restoration plan.

Impaired waterbodies fail to support “beneficial uses.” Beneficial uses include recreation, aquatic life, fisheries, water supply, agriculture and industrial use. A water quality restoration plan identifies the sources of pollutants and sets targets for achieving water quality standards. In order to meet targets, point source dischargers such as factories or municipalities may have their permits adjusted to reduce their contribution while nonpoint

contributors, such as farms, ranches and logging operations, are urged to adopt a “voluntary program of reasonable land, soil and water conservation practices.”

The schedule is posted on DEQ’s website <http://www.deq.state.mt.us/> or a copy may be obtained by calling (406) 444-6697.

SEMINARS and CONFERENCES

Winter Grazing Seminar

January 10-11, 2001

Lewis and Clark Room
Western Montana College
Dillon, MT

Sponsored by the Beaverhead Conservation District and the Beaverhead Range Committee in cooperation with the Governor’s Rangeland Resources Committee.

For more information contact:
Danette Watson (406) 683-3802

PUBLICATION

Winter Feeding Guide

A new publication, *Winter Grazing Successes*, profiles 16 Montana ranches that have implemented management techniques to protect water quality, enhance ranch productivity and sustain or improve vegetation resources. *Winter Grazing Successes* was published by the Southwestern Montana Grazing Lands Conservation Initiative Group with assistance from the MSU Cooperative Extension Service, Montana Grazing Lands Conservation Initiative, Department of Natural Resources and Conservation and the Natural Resources Conservation Service. To request copies contact Southwestern Montana Grazing Lands Conservation Initiative Group c/o Natural Resources Conservation Service, 3 Whitehall Road, Whitehall, MT 59759 Phone: (406) 287-3215.

Animal Waste Conference

Managing Animal Waste in a Changing World is the theme of the Montana Chapter of the Soil and Water Conservation Society’s annual conference. The **February 1 and 2** conference in Billings is co-sponsored by the International Mountain Society of Range Management. Workshops will address waste handling systems, filter strips, composting, feed management, constructed wetlands, technical and financial assistance and winter feeding management options. Certified Crop Advisor continuing education credits will be available.

For more information contact Tom Pick, (406) 444-4765; Warren Kellogg, (406) 444-4490; or Dave Heilig, (406) 522-4020.



MEETING

Montana Watershed

Coordination Council’s Quarterly Meeting

Political Savvy & Organizational Assistance for Watershed Groups

January 24, 2001 - 9:30 a.m. - 3:30 p.m.

Montana Department of Environmental Quality

Director’s Conference Room - Room 111

1520 E Sixth Ave.- Helena, MT 59620-0901

For more information contact Mary Ellen Wolfe

994-1910 or mwolfe@montana.edu or see <http://>

water.montana.edu/watersheds/mwcc/mwcc1-24-01ag.rtf

FIGURE 1: TMDL PLANNING AREAS AND COMPLETION SCHEDULE

